REMARKS

Claims 8-9 and 13-26 are pending. All pending claims are in condition for allowance.

The Office rejected claims 8, 18, and 25 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,542,934 to Bader *et al.* ("Bader") in combination with U.S. Patent No. 6,163,526 to Egoshi *et al.* ("Egoshi"). To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP § 2143. The combination of Bader and Egoshi fails to teach or suggest all limitations of claims 8, 18, or 25.

The claimed invention relates to restoring traffic patterns in a network following recovery from a fault. In particular, an improved mechanism is provided for safely and efficiently handling protection switching in networks following the failure and recovery of a primary circuit. Following recovery from a fault, a primary traffic circuit may be restored in one direction (*e.g.* from a first network element to a second network element), but not in the other direction (*e.g.* from the second network element to the first network element). Switching traffic from a secondary traffic circuit (i.e., the one used during the fault) back to the primary traffic circuit, before that circuit is fully recovered in both directions, could require a subsequent transfer of traffic back to the secondary circuit. Such unnecessary switching will cause additional traffic interruption. The claimed invention minimizes this traffic interruption by employing a two-step recovery process to ensure that the primary traffic circuit has fully recovered before switching traffic back to it.

Claim 8 is directed to a transport network element in a network system. The network element includes an agent that controls a traffic selector to switch between a primary traffic circuit and a secondary traffic circuit, as well as controlling the activation/deactivation of the secondary traffic circuit by exchanging signaling messages with a corresponding remote agent. Claim 8 recites that the agent is configured to "switch the traffic selector to receive traffic on the primary traffic circuit, and send a RevertRequest message to the remote agent to request the

remote agent to deactivate the previously activated secondary traffic circuit, responsive to detecting that the failure on the primary traffic circuit no longer exists . . [and] . . send a Revert message to the remote agent to deactivate the secondary traffic circuit if the traffic selector is already switched to receive traffic on the primary traffic circuit, responsive to receiving a RevertRequest message from the remote agent." This signaling handshake prevents a network element from prematurely switching from the secondary traffic circuit to the primary traffic circuit, before the corresponding remote network element is fully recovered. This is because while the agent may detect that the primary traffic circuit is available for communicating to the remote network element, it cannot always know whether the primary traffic circuit is also available to the remote network element, for communication in the other direction. Therefore, incoming traffic may be received at the network element on the primary traffic circuit. However, outgoing traffic to the remote network element should be maintained on the secondary traffic circuit until the remote network element indicates that the primary traffic circuit is fully recovered, to prevent an unnecessary switch back to the secondary traffic circuit if it is not fully recovered.

Bader discloses a method of rerunning traffic in a network in a secondary network path back to a primary network path after the primary network path has recovered and is once again available for traffic. However, Bader does not teach or suggest "an agent configured to ...switch the traffic selector to receive traffic on the primary traffic circuit, and send a RevertRequest message to the remote agent to request the remote agent to deactivate the previously activated secondary traffic circuit, responsive to detecting that the failure on the primary traffic circuit no longer exists." The Office cited column 10 of Bader, lines 55-63, as well as Figure 3 (ref. no. 44) as disclosing the claimed agent. However, this passage simply indicates, rather generically, that the secondary path is deactivated once all communication sessions have been either transferred to the primary path or terminated. Bader does not mention any particular signaling exchanges that would prevent the unnecessary additional switching that causes additional traffic

interruption, as claimed in Claim 8. Certainly, Bader fails to teach or suggest the specific RevertRequest message.

Moreover, Bader does not teach or suggest an agent that switches a traffic selector to receive traffic on the primary traffic circuit. Nor is this possible in Bader. The fundamental goal of Bader is to provide a method that transfers communication sessions from a secondary path to a primary path in a phased manner. According to Bader, some communication sessions can be transferred immediately, while others cannot. column 8, lines 29-65; column 9, lines 21-36. In such cases, the secondary path must be maintained until all non-transferrable sessions have terminated. This phased approach as taught by Bader would not be possible if a traffic selector is switched whenever the primary traffic circuit is fully restored. Indeed, if the traffic selector is switched upon the full restoration of the primary traffic circuit, all non-transferrable sessions in Bader would be lost. Therefore, the phased approach of Bader is incompatible with the claimed approach in which all traffic is switched back to the primary traffic circuit as soon as the primary traffic circuit is (bi-directionally) available. For at least this reason, the § 103 rejection of claim 8 is improper and must be withdrawn.

Bader also fails to teach or suggest "an agent configured to . . . send a Revert message to the remote agent to deactivate the secondary traffic circuit if the traffic selector is already switched to receive traffic on the primary traffic circuit, responsive to receiving RevertRequest message from the remote agent." The Office equates the claimed RevertRequest message to the "quiesce" message of Bader. The quiesce message is a command to switch transferrable traffic to the primary path, not a request for approval to switch all of the traffic from the secondary path. For at least this additional reason, the § 103 rejection of claim 8 is improper and must be withdrawn.

The Office also indicates that steps 36 and 38 in Figure 3 of Bader equate to the claimed Revert message. These steps merely restart the transferrable sessions on the primary path.

Bader does not disclose using a signaling message – such as the Revert message – to accomplish this function. Moreover, Bader does not disclose using a RevertRequest and a Revert messaging pair to control restoration switching, as claimed. For at least this further reason, the § 103 rejection of claim 8 is improper and must be withdrawn

Indeed, any switching Bader teaches is necessarily distinguished from the claimed switching. Bader requires a phased approach to the switching of traffic from the secondary path to the primary path. Thus, Bader re-routes only the "non-disruptively re-routable communications." The other communications must wait (*i.e.*, remain on the secondary path). Claim 8 recites switching all traffic between paths, but only when the primary path is confirmed as being available at the remote network element. As previously stated, this is accomplished using the specific Revert and RevertRequest messages – two messages that Bader never mentions.

Accordingly, Bader does not teach or suggest "an agent configured to . . . switch the traffic selector to receive traffic on the primary traffic circuit, and send a RevertRequest message to the remote agent to request the remote agent to deactivate the previously activated secondary traffic circuit, responsive to detecting that the failure on the primary traffic circuit no longer exists; and send a Revert message to the remote agent to deactivate the secondary traffic circuit if the traffic selector is already switched to receive traffic on the primary traffic circuit, responsive to receiving a RevertRequest message from the remote agent." The Egoshi reference fails to cure the deficiency of Bader to teach or suggest these claim limitations. Accordingly, Claim 8 and its dependent claims exhibit patentable non-obvious over the cited references.

Additionally, the Office has failed to establish a prima facie case of obviousness, as the purported combination of references is improper. No one of skill in the art would be led to combine Bader and Egoshi, since their teachings are fundamentally incompatible. Bader

teaches post-recovery activity – that is, restoring traffic patterns after a primary traffic circuit in a network has recovered from a fault. In stark contrast, Egoshi teaches pre-recovery activity – that is, what happens upon a failure of a primary traffic circuit. Post-recovery and pre-recovery activity cannot be combined, as they occur at different times.

Furthermore, Egoshi teaches switching all traffic between a working path and a protection path at the same time. There is no phased transfer of sessions, based on whether they are "non-transferrable" or "non-disruptively terminable" in Egoshi. As such, the phased approach of Bader is incompatible with the system of Egoshi. Indeed, the two references teach mutually exclusive switching approaches. For at least this still further reason, the § 103 rejection of claim 8 is improper and must be withdrawn.

Bader teaches a phased approach to post-recovery traffic handling – that is, how to handle non-transferrable traffic during network restoration. Egoshi teaches a particular method of switching to a protection circuit when the working circuit has failed – that is, pre-recovery activity. Aside from being incompatibly different from each other, both references differ from the claimed invention, which is directed to checking that a primary traffic circuit is available in both directions before restoring traffic from a secondary circuit. Accordingly, claim 8 exhibits patentable nonobviousness over the asserted combination.

Claim 18 is directed to a method of operating a transport network element to activate and deactivate a pre-programed secondary traffic path in a transmission network. Claim 25 is directed to a corresponding network system having a transport network element. Both claims 18 and 25 recite language similar to that of Claim 1. Accordingly, for the reasons stated above, claims 18 and 25 exhibit patentable nonobviousness over the cited references.

All dependent claims include all limitations of their respective parent claim(s), and thus also define patentable nonobviousness over the art of record. All pending claims are now in condition for allowance, which prompt action is hereby respectfully requested.

Respectfully submitted,

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